

AMENDMENT NO. 1
TO
AGREEMENT FOR ENGINEERING CONSULTING SERVICES
CONTRACT NO. 300452
FEDERAL PROJECT NO. BHLS-5949(135)

This Amendment No. 1 executed this _____ day of _____, 2013, to the AGREEMENT made by and between the COUNTY OF SAN LUIS OBISPO ("COUNTY") and Quincy Engineering, Inc., ("ENGINEER") on July 10, 2012, hereby amends said agreement as follows:

1. Under Article 1, Scope of Work, the "Scope of Work" attached hereto as Exhibit 'A' supersedes the "Detailed Scope of Work" attached to the original AGREEMENT.
2. Under Article 2, Time for Completion of Work, said AGREEMENT is hereby amended to extend the time at which all work shall be completed to no later than June 1, 2014.
3. Under Article 2, Time for Completion of Work, said AGREEMENT is hereby amended by inserting the following new paragraph as the second paragraph under Article 2:

ENGINEER shall not commence any task listed as optional in the "Scope of Work," attached hereto as Exhibit A, without first receiving a task specific written authorization to Proceed for that task from COUNTY.

4. Under Article 3, Payment for Services, said AGREEMENT is hereby amended as follows:
 - a. Paragraph A.1 is hereby replaced with the following:

The COUNTY shall pay to ENGINEER as compensation in full for all work described in this Agreement a total sum not to exceed \$562,681.80. This sum includes the fixed fee amount described in Article 3.A.3 below, and includes all work listed as optional in the Scope of Work.
 - b. Under Paragraph A.3, the fixed fee shall be increased from \$5,364.31 to \$10,409.52.
 - c. Under Paragraph C, Invoices, the "Cost Proposal" attached hereto as Exhibit B supersedes the "Cost Proposal" included with the original AGREEMENT.
 - d. Under Paragraph F, ENGINEER's Assigned Personnel, the "Organization Chart" attached hereto as Exhibit C supersedes the "Organization Chart" included with the original AGREEMENT.

- e. ENGINEER and COUNTY acknowledge that the not-to-exceed sum of \$562,681.80 includes \$104,977.53 in payments already made to ENGINEER for Phase 1 Work (consisting of Tasks 1 through 3). ENGINEER shall perform all Work (including Tasks 1 through 6) for a total sum not to exceed \$562,681.80.

5. Under Article 25, Notices, said AGREEMENT is hereby amended as follows:

a. "Tim Osterkamp" is hereby changed to "Mark Reno."

b. The following new paragraph is hereby inserted at the end of Article 25:

The task specific written authorization to commence optional work described above in this Amendment No. 1 may be transmitted by email to Mark Reno at markr@quincyeng.com in lieu of noticing by first class mail.

6. The effective date of the Amendment No. 1 is immediate upon complete execution by all of the parties.

7. All provisions of the Agreement not affected by this Amendment No. 1 shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, this Amendment No. 1 is hereby entered into by the parties hereto, upon the date shown sign by the County of San Luis Obispo.

COUNTY OF SAN LUIS OBISPO

Chairperson of the Board of Supervisors
of the County of San Luis Obispo

Date:_____

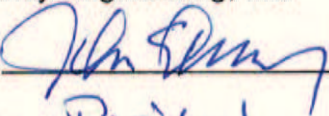
ATTEST:

County Clerk and Ex-officio Clerk
of the Board of Supervisors of the
County of San Luis Obispo

By:_____
Deputy Clerk

Date:_____

Quincy Engineering, Inc.

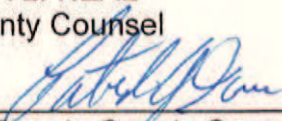
By: 

Title: President

Date: 9/18/13

APPROVED AS TO FORM AND LEGAL EFFECT:

RITA L. NEAL
County Counsel

By: 
Deputy County Counsel

Date: 9/16/13

L:\DESIGN\OCT13\BOS\300452 QUINCY AGREEMENT AMENDMENT NO 1.docx.ki.taw

EXHIBIT “A”

Scope of Work

Lopez Drive Bridge No. 2 Seismic Retrofit
State Bridge No. 49C0354; Co. Rd. No. 2019, P.M 13.006

Quincy Engineering, Inc. (Quincy) personnel and its Project Team have provided plans, specifications, and estimates (PS&E) for a large number of Retrofit Projects including Federal Highway Bridge Program (HBP) projects throughout California. Therefore, the Team recognizes the importance of maintaining close coordination and cooperation with **San Luis Obispo County (County)** throughout the project’s duration.

Quincy Engineering’s approach for this project is as follows:

PHASE 1

TASK 1 – FIELD REVIEW/ASSESSMENT/PROJECT MANAGEMENT/GEOTECH

Task 1.1 – Kick-off Meeting

A kick-off meeting will be held after the Notice to Proceed which will introduce the Project Team, establish communication channels, set the project schedule, clarify the *Scope of Work*, and define the roles and responsibilities of the various Team members.

Task 1.2 – Field Review

Quincy will perform a site review and will determine the need for any additional site topography.

Task 1.3 - Project Management (*Work to take place in Tasks 1-3*)

Quincy will lead the Project Development Team (PDT) for the project. This will include leading PDT meetings, which will include distributing approved meeting agendas, arrange attendance of key team members, and distributing meeting minutes along with a summary of action items. Quincy will also develop and update a critical path schedule, which will be updated monthly and sent out with a monthly progress report. A total of three (3) PDT meetings are proposed for this *Scope of Work*.

Task 1 Deliverables:

- Four Copies of Draft Feasibility Study Report
- Kick-off meeting/site review minutes
- Meeting Agenda & Meeting Minutes (3 total)
- Project Schedule Updates (monthly)
- Preliminary Geotechnical Report (5 copies)
- Final Geotechnical Report (5 copies)
- Log of Test Borings

Task 1.4 – Geotechnical Engineering

Task 1.4.1 – Reconnaissance

Fugro Consultants Inc. (Fugro) will prepare a tentative field exploration plan and letter describing the field work which will be used to obtain an encroachment permit (if required). They will also review selected published geologic maps and reports relative to characterizing the geology in the site vicinity, and any previous geotechnical information for the existing facility provided by the County. Fugro will perform a site visit to mark the locations for their explorations and coordinate permitting and utility clearances for the field exploration program. Fugro will obtain an encroachment permit from the County for the field explorations.

Task 1.4.2 – Subsurface Exploration

Field exploration will consist of drilling two borings at the site to depths of approximately 100 to 125 feet below the surface of Lopez Drive. One boring will be drilled behind each existing abutment at the north and south approach.

The borings will be drilled using a truck-mounted drill rig equipped with hollow stem augers. Drill fluids will be added to the augers to help stabilize the hole if needed. The borings may be deepened or terminated at shallower depths depending on the conditions encountered during drilling. Fugro will initially sample the borings at approximately 5-foot intervals using standard penetration test (SPT) split spoon and modified California split spoon samplers. The samples will be used to classify the materials encountered, and be retained for subsequent laboratory testing. The borings will be backfilled with cement grout and topped with rapid-set concrete upon completion of the drilling. Excess cuttings will be hauled offsite to suitable location designated by the County or to the landfill.

Task 1.4.3 – Laboratory Testing

Laboratory tests will be performed on selected samples obtained from the field exploration program to assist in Fugro's characterization of the geotechnical engineering properties of the materials encountered. They expect to perform tests that could be used as part of the complete geotechnical investigation for the bridge design or replacement, such as for soil classification, compaction, shear strength, consolidation, corrosion, and R-value.

Task 1.4.4 – Geotechnical Report

Based on Fugro's review of the field data, they will prepare a Draft Geotechnical Report for the existing bridge. A draft of the report will be submitted in Adobe portable document file (pdf) format for review by the County and Quincy. The report will provide Fugro's opinions and recommendations regarding:

- Geologic setting and fault conditions;
- Summary of soil and groundwater conditions encountered;
- Seismic Design Criteria and recommended ARS curve for the bridge evaluation and subsurface conditions encountered;
- Potential for geologic hazards to impact the project (such as liquefaction and seismic settlement, landslides, fault rupture, ground shaking);
- Stability of the bridge approach embankments relative to liquefaction, seismic settlement, lateral spreads and slope instability;
- Discussion of potential impacts to the bridge foundations such as estimated negative skin friction, lateral loading due to slope instability, and settlement; and
- Estimated thrust resistance, geotechnical properties, and pile response to lateral loading considering liquefaction and seismic loads.

Task 1.4.5 – Log of Test Borings

Fugro will prepare the Log of Test Borings sheets for the bridge. The sheets will be prepared on Caltrans standard plan sheets for logs of test borings, and can be modified to incorporate the County's plan sheet border, if requested. A copy of the LOTB will be submitted with the Draft Geotechnical (Bridge Foundation) Report.

Task 1.4.7 – Geotechnical Report (Foundation Report)

Fugro will incorporate comments from the Preliminary Geotechnical Report into the final Geotechnical Report and Log of Test Borings sheet. Five (5) hard copies and one Adobe portable document file (pdf)

copy of the final report will be submitted, unless otherwise requested. The electronic copy of the LOTB will be submitted for inclusion in the plan set.

TASK 2 – STRUCTURE ANALYSIS

Quincy will utilize the following criteria in our design and analysis:

- Caltrans Standard Specifications
- Caltrans Standard Plans
- Caltrans Bridge Memo to Designers
- Caltrans Bridge Design Aids
- Caltrans Bridge Design Details
- Caltrans Seismic Design Criteria (Version 1.6)
- AASHTO LRFD Bridge Design Specifications, 4th Edition with Caltrans Amendments (Version 4)

Task 2 Deliverables:

- Preliminary Results Report (5 copies)

Task 2.1 – Displacement Demand

Quincy will develop existing structure computer models to determine both the transverse and longitudinal seismic displacement demands. QEI will also utilize an equivalent static analysis to compare with the computer generated demands.

Task 2.2 – Structure Component Capacities

Quincy will determine individual element capacities. These individual element capacities will be utilized to determine a global capacity in both the longitudinal and transverse directions.

Task 2.3 – Demand/Capacity Comparison

Quincy will prepare tables comparing the demands and capacities at all supports in both the longitudinal and transverse directions. A report summarizing our results along with the demand/capacity results and our recommendation will be submitted to the County for their review (Preliminary Results Report).

Task 2.4 – Independent Review

Prior to submitting the Preliminary Results Report to the County, Quincy will have an engineer independently review the analysis performed. The designer and reviewer will come to agreement on any discrepancies prior to the submittal.

TASK 3 – SEISMIC RETROFIT STRATEGY

If it is determined in Task 2 that a retrofit of the existing structure is required then the following tasks will be completed.

Task 3.1 – Retrofit Recommendations

Quincy will develop retrofit strategies. A General Plan sheet along with a preliminary construction cost estimate and an APE Map for each strategy will be prepared. Quincy will provide our recommendation to the County for their review.

Task 3 Deliverables:

- Initial Recommendations (5 copies)
- Draft Strategy Report (5 Copies)
- Strategy Report to Caltrans (15 copies)
- Final Strategy Report (5 copies)

Task 3.2 – Strategy Report

Upon the County's decision on a preferred retrofit strategy, Quincy will prepare a Strategy Report. This report will include alternatives investigated, assumptions made along with General Plan Estimates reflecting the

construction costs. A Draft Strategy Report will be submitted to the County for their review. Upon incorporating the County comments on the Draft Strategy Report, Quincy will submit the Strategy Report to Caltrans in preparation of a Strategy Meeting.

PHASE 2

PHASE 2 RECITAL: A meeting took place on March 12, 2013, attended by the **County, Caltrans, Quincy** and **Fugro**. During the aforementioned meeting of March 12, 2013 it was determined that **Fugro** will obtain the following additional subsurface information:

- A boring into the rock at each abutment (alluvial samples previously taken)
- A boring into the rock at each pier with alluvial samples taken. This will be obtained via a barge.
- Three CPT's at the north abutment
- As an optional task, 2 CPT's (one at each pier) and an additional 7 CPT's will be taken from a barge on each side of the structure (total 9 CPT's).

Upon further review, **Fugro** believes a minimum of two CPT's (one at each pier) will be required.

Quincy provides this revised *Scope of Work* (Phase 2) and Cost Proposal to obtain additional subsurface information and to utilize this information to obtain Caltrans approval on strategy for the Lopez Drive Bridge No. 2 for the **County**.

Quincy will follow Caltrans Division of Structures "Bridge Memo to Designers", "Bridge Design Aids", "Bridge Design Details" and the "Office of Specially Funded Projects Information and Procedure Guide" along with any applicable **County** Standards. Upon request, electronic files (MSWord, Excel, HEC-RAS, AutoCAD Civil 3D format, MSProject, etc.) will be provided to the **County**. Plans will be prepared in AutoCAD Civil 3D.

TASK 4 - PROJECT MANAGEMENT (TASKS TO TAKE PLACE IN ALL PHASES OF WORK)

Task 4.1 - Project Management

Quincy will provide Project Management tasks that include coordination with the **County**, team members, product development tracking, team and stakeholder communication, and developing and updating a critical path schedule for the project.

Task 4 Deliverables:

- Team Meetings (1)
- Phone Meetings (4)
- Meeting Minutes (5)

Task 4.2 – Meetings

Quincy will attend one meeting in person and a maximum of four project team meetings by phone not including the Field Coordination, Preliminary Results Review Meeting and Strategy Meetings described below. **Quincy** will prepare meeting minutes upon completion of the meetings.

Task 4.3 – Quality Control/Quality Assurance

Quincy will provide documented Quality Control/Quality Assurance following our in-house QA/QC Manual. This includes a Constructability Review, where a senior level engineer will review the entire Draft Strategy Report for uniformity and constructability. The review will include verifying that the foundation material was incorporated properly.

TASK 5 – GEOTECHNICAL ENGINEERING

Task 5.1 – Field Coordination Meeting

Prior to beginning any additional subsurface work, the **County, Quincy** and **Fugro** will take part in a Field Coordination Meeting. At this time the boring locations, boring schedule, access to Lopez Lake, (use of the boat launch at the marina), parking, storage of field exploration equipment, coordination with County Parks, required environmental clearance, rights of entry and encroachment permitting will be discussed. **Quincy** will submit a procedural memorandum for **County** review following the field review meeting. The memorandum shall describe the subsurface information schedule and the location of all equipment throughout all operations. **Quincy** will prepare meeting minutes upon completion of the meeting.

Task 5 Deliverables:

- Draft Geotechnical Report (3 copies & PDF)
- LOTB
- Final Geotechnical Report (PDF & 3 copies)
- Meeting Minutes (2)

Task 5.2 – Health and Safety Plan

Fugro will prepare a health and safety plan for the field work, and visit the site to coordinate access for field exploration with Parks and the **County** environmental monitors. **Fugro** will mark the locations of their planned explorations and contact Underground Services Alert (USA) to review the locations relative to underground utilities. **Fugro** will provide GPS coordinates for over-water explorations and can provide staking for site lines at the shoreline at either end of the proposed explorations to help review the locations if there are potential conflicts with underwater utilities. **Fugro** will not be responsible for damages resulting from buried structures or underground utilities that are not brought to **Fugro's** attention and properly marked at the site.

Environmental permitting, studies, or monitoring particularly for water-based explorations when working from the barge is not included. Environmental mitigation may be required and unless specifically described in this proposal is not included.

Task 5.3 – Additional Subsurface Information

Task 5.3.1 – Truck-Mounted Drilling at Each Abutment

Fugro will provide up to a 4-day effort to advance two drill holes behind the existing bridge abutments in Lopez Drive. The main purpose of the additional drilling would be to perform rock coring as a basis for characterizing the Monterey Formation bedrock for the design of rock-socketed CIDH piles at each abutment. This work will supplement the previous drilling. The work will be specifically limited to rock coring because the sediments above the bedrock at the abutments was explored during the previous drilling. During this period, **Fugro** expects to advance a core to at least 50 feet into rock at each location.

Task 5.3.2 – Water-Based Drilling from Barge

Fugro will provide up to a 4-day effort to advance two borings from the barge working on Lopez Lake. The barge and drill equipment will be launched from the existing boat launch facility at the Lopez Lake marina. The barge will be anchored at the boring locations using 40-foot spuds and can be anchored in water up to about 30 feet deep. The barge, winch, a push boat, and tender will be provided by Associated Pacific Constructors of Morro Bay, California.

The drill holes will be used to obtain soil samples and rock cores near the existing bridge piers. Prior to advancing the hole, the mudline will be sounded from the barge using a lightly weighted tape. A casing will then be set from the barge to several feet below the mudline, the depth of which may

vary depending upon the lakebed sediments. The main purpose of the additional drilling will be to obtain samples of the lake-bottom sediments, alluvial soil materials and to perform rock coring within the Monterey Formation bedrock. The work will be performed using mud-rotary drilling equipped for both soil sampling and rock coring. During this period, Fugro expects to advance the borings to approximately 140 feet below the mudline or to core to at least 50 feet into rock at each pier location. Drilling fluids consisting of bentonite clay slurry will be used for the drilling. Drilling mud and cuttings will be drummed for offsite disposal, however, it should be expected that some drilling mud will enter the water as part of the over-water drilling program.

Task 5.3.3 – Truck-Mounted CPT along Lopez Drive

A one-day field effort will be provided to advance three (3) CPT soundings through the existing pavement between the north abutment and Hi Mountain Road. The CPT will be used to collect a near continuous profile of tip resistance, friction resistance and pore pressure measurements as the cone is advanced using a hydraulic ram mounted inside the truck. The data will be collected using an on board computer that can be interpreted and analyzed to estimate a variety of engineering properties of the soils encountered and liquefaction potential.

Task 5.3.4 – Water-Based CPT Exploration from Barge

Fugro will provide up to a 2-day effort to perform 2 CPT soundings, one near each of the existing bridge piers. Prior to advancing the CPT, the mudline will be sounded from the barge using a lightly weighted tape. A casing to support the CPT rods will be set from the barge down to mudline. Where possible, soundings will be located near the shoreline to help minimize the length of the unsupported casing above the mudline, which can limit the depth of the CPT advance. The CPT rods will be run within the casing, and rotary wash may be used to help advance the soundings, if needed.

Task 5.3.5 – Laboratory Testing

Laboratory tests will be performed on selected samples obtained from the field exploration program to assist in **Fugro's** characterization of the geotechnical engineering properties of the materials encountered. They expect to perform tests that could be used as part of the complete geotechnical investigation for the bridge retrofit or replacement design, such as for soil classification, shear strength, consolidation, and corrosion.

Task 5.3.6 – Geotechnical Evaluation

Geotechnical analyses will be performed to review the site response (design ARS curve) based on the conditions encountered, update the slope stability analyses for the bridge, and to provide input for foundation evaluation. The geotechnical evaluation includes following three steps:

Step 1: Develop Design ARS Curves at Bedrock Level. The design ARS curve and ground motion data for geotechnical analyses can be estimated using the Caltrans computer program and fault database presented in ARS Online based on empirical correlations to residual strength. Because potentially liquefiable soils are present, and empirical correlations used to estimate the stability and deformation of slopes subjected to seismic loading do not account for liquefiable soils, additional time histories analysis will be used to prepare site response information that is needed for the subsequent 2-D slope stability analyses. The modified response curve, considering the presence of liquefiable soils, to compare to ARS online and to use in lieu of the design ARS Online curve, if desired.

Due to the presence of liquefiable sand, which significantly changes the site response due to pore water generation and loss in soil strength; typical ARS curves even with low shear wave

velocities (V_s) are not applicable. Ground motions will be developed at the bedrock level where there is no presence of liquefiable soil considering two return periods. **Fugro** will discuss with **Quincy** to determine the hazard levels appropriate for design and for use with Caltrans seismic design methods.

Step 2: Ground Motion Development: Seven (7) time histories will then be developed for the project site.

- Instrumentally recorded acceleration-time histories will be selected that are compatible with the levels of hazard (liquefaction) identified at the site. The time histories will be selected from recordings that have spectral content similar to the design response spectra. Consideration will also be given to the magnitudes, distances, and style of faulting that contribute the most to the hazard at the site.
- The time histories will be spectrally matched to the target rock spectrum. Due care will be taken during the spectral matching process to allow spectral matching while retaining primary characteristics of the seed motion.
- For this step, **Fugro** assumes that same set of time histories will be used for both hazard levels.

Step 3: 2-D Dynamic Slope Stability Analyses: Finite element and nonlinear soil analysis will be used to estimate the stability of the approach embankments and potential impacts to the existing and proposed bridge foundations considering liquefied soil conditions. The analyses will be performed using the computer program FLAC which is capable of modeling the nonlinear soil behavior of soft clay and excess pore pressure generation of loose sands during earthquakes. Soil stratigraphy and associated dynamic properties will be explicitly modeled with the design ground motions input at the base (i.e. bedrock). The analyses will be a 2-D analysis to consider the topography of the lake bed and the continuous change in the subsurface soil stratigraphy. The output from this set of analyses will include:

- Acceleration time histories at the ground surface and any depths of interest;
- Acceleration response spectra at any depths of interest;
- Pore pressure generation and impacts to the estimated strength of the soil for the time histories within liquefiable layers; and
- Dynamic slope deformation due to earthquakes.

For this task, **Fugro** has assumed that dynamic slope analyses will be performed for 7 time histories at 2 design hazard levels. They also assume that slope deformation will be evaluated for one representative cross section.

3D Kinematic SSI Analyses (Optional): **Quincy** will prepare and submit a brief memorandum to the County if the 3d Kinematic Analysis is required stating the geotechnical reasons and conditions encountered that justify the additional analysis. Kinematic foundation analyses will be performed to estimate the structure response and seismic response of the bridge foundations for one ground motion. These analyses can produce different and potentially lower levels of ground motions for sites underlain by soft ground or liquefiable soils, particularly when the period of the structure is less than about 0.8 seconds. The H-piles and/or proposed CIDH piles will be explicitly modeled using structural pile elements in FLAC3D. The pile element has six degrees of freedom on each node and is connected to the surrounding soils via interface springs in both frictional and normal directions. The soil-pile interaction in FLAC3D is controlled by both near-field (interface springs) and far-field (soil elements). The stiffness and capacity of the interface springs will be selected based on the

subsurface soil condition and theoretical pile capacity calculation such that interaction between piles and soils can be modeled. The pore-pressure generation within liquefiable layers will not be modeled in the 3-D environment; however, the dynamic soil properties will be calibrated in this task such that dynamic response predicted by effective stress analysis at the free-field is captured. The 3-D topography of the slope will not be modeled. The outputs will include:

- Horizontal kinematic acceleration time histories at the pile cap;
- Horizontal acceleration response spectra at the pile cap; and
- Shear, axial forces and bending moment diagrams of the piles.

Task 5.3.7 – Draft Geotechnical Report

Based on their review of the field data, **Fugro** will prepare a Draft Geotechnical Report for the existing bridge. The report will be prepared based on the previous report, and be resubmitted with the additional data and analyses. The key mitigations that will be addressed in the report are whether or not the existing bridge is vulnerable to being impacted by liquefaction or associated slope instability, the bridge retrofit considering a catcher-bent supported by large-diameter CIDH piles, the use of compaction grouting to strengthen the foundation supported soils around the existing bridge or proposed CIDH pile foundations, or construction of a new replacement bridge.

Task 5.3.8 – Log of Test Borings

Fugro will prepare the Log of Test Borings sheets for the bridge. The sheets will be prepared on Caltrans standard plan sheets for logs of test borings, and can be modified to incorporate the **County's** plan sheet border, if requested. A copy of the LOTB's will be submitted with the Draft Geotechnical Report.

Task 5.3.9 – Final Geotechnical report

Upon receipt of written comments regarding the Draft Geotechnical Report, **Fugro** will address the comments and incorporate them into the Final Geotechnical Report and Log of Test Boring sheets. Three (3) hard copies and one Adobe portable document file (pdf) copy of the final report will be submitted, unless otherwise requested. The electronic copy of the LOTBs will be submitted for inclusion in the plan set.

Task 5.4 – Preliminary Results Review Meeting

While equipment is still mobilized, a meeting will take place with the **County, Quincy** and **Fugro** staff to determine if any of the optional additional subsurface information (the following task) will be required. This decision will be made from preliminary information derived from previous subsurface explorations. **Quincy** will prepare and submit a brief memorandum to the County if the additional CPT's are required stating the geotechnical reasons and conditions encountered that justify the additional 7 CPT's. **Quincy** will prepare meeting minutes upon completion of the meeting.

Task 5.5 – Water-Based CPT Exploration from Barge (Optional)

Fugro will provide up to a 3-day effort to perform up to 7 CPT soundings, off of the alignment of the existing bridge. Prior to advancing the CPT, the mudline will be sounded from the barge using a lightly weighted tape. A casing to support the CPT rods will be set from the barge down to mudline. Where possible, soundings will be located near the shoreline to help minimize the length of the unsupported casing above the mudline, which can limit the depth of the CPT advance. The CPT rods will be run within the casing, and rotary wash may be used to help advance the soundings, if needed. Additional laboratory testing and analysis required from these explorations will be included with this task.

TASK 6 – STRATEGY APPROVAL

Task 6.1 – Retrofit Recommendations

Quincy will review the Draft Geotechnical Report. **Quincy** will re-analyze the structure utilizing new subsurface information shown in the Geotechnical Report. **Quincy** will refine the existing retrofit strategies based on the new geotechnical information, which will be presented to the **County** along with our recommendation.

Task 6.2 – Revised Draft Strategy Report

Upon the **County's** decision on a preferred retrofit strategy, **Quincy** will revise the existing Draft Strategy Report. This report will include alternatives investigated, assumptions made along with General Plan Estimates reflecting the construction costs. A Draft Revised Draft Strategy Report will be submitted to the **County** for their review.

Task 6 Deliverables:

- Retrofit Recommendations
- Revised Draft Strategy Report to County (5 copies & PDF)
- Revised Draft Strategy Report to Caltrans (15 copies)
- Final Strategy Report (5 copies & PDF)
- Meeting Minutes

Task 6.3 – Submit Revised Draft Strategy Report

Upon incorporating the **County** comments on the Revised Draft Strategy Report, **Quincy** will submit the Report to Caltrans in preparation of a Strategy Meeting.

Task 6.4 – Strategy Meeting

Quincy will present the Draft Strategy Report to Caltrans at a Strategy Meeting.

Task 6.5 – Final Strategy Report

Quincy will incorporate all valid comments along with meeting minutes from the Strategy Meeting in a Final Strategy Report.

PHASE 3 – ENVIRONMENTAL, FINAL DESIGN, BID ASSISTANCE, & CONSTRUCTION SUPPORT

Quincy will be available after a seismic retrofit strategy is completed to provide Bridge Engineering and Bridge Environmental Services for a fully permitted, ready to advertise plan; as-well-as provide optional bidding assistance and construction support. Phase 3 will occur after a strategy is approved by Caltrans and will be via a contract amendment or new contract, to be determined by the **County** at a later date.

PROJECT ASSUMPTIONS

- The **County** will be responsible for printing and distributing bid documents
- The **County** will be responsible for Construction Management
- Environmental permitting for geotechnical work is not included in the attached fee.
- There is a 3 day minimum for barge rental.
- Drums containing drilling mud and soil cuttings will be labeled and temporarily left onsite for any drilling activities. The mud and cuttings from the drill holes are considered to be non-hazardous for the purposes of this proposal and will be tested for CAM17 metals only prior to disposal. The **County** will provide a location within a 10 minute drive of work area to store the drums until they can be picked up.

- All field work, including any optional tasks, will occur under one mobilization and without delays for analysis, reporting, or decisions regarding the optional tasks. Work assumes that rigs can access the barge from ramps at the Lopez Lake Marina and that the work can be completed within estimated number of working days.
- Delays or unanticipated conditions relating to the water depth, sediment types, access requirements, or permit restrictions could impact the scope and duration of the work, the cost for which is not included in this proposal.
- There will be no fee to access the marina or Lopez Lake.

Exhibit B Cost Proposal

PHASE 2 TASKS

San Luis Obispo County - Lopez Drive Bridge Retrofit Project

Date: 9/12/2013

Quincy Engineering, Inc.

| | |
|---|--------------------|
| Direct Labor: | \$17,025.98 |
| Escalation for Multi-Year Project (0.0%): | \$0.00 |
| Overhead (1.73): | \$29,471.97 |
| A. Labor Subtotal | <u>\$46,497.95</u> |

Subconsultant Costs:

| | |
|---------------------------|---------------------|
| Fugro | \$310,984.00 |
| Custom CAD Design | \$0.00 |
| | \$0.00 |
| 0 | \$0.00 |
| | \$0.00 |
| B. Subconsultant Subtotal | <u>\$310,984.00</u> |

Other Direct Costs:

| | | | |
|--|--------------|----------|-------------------|
| Plotter/Computer | hours @ | \$10.00 | \$0.00 |
| Travel | 2000 miles @ | \$0.565 | \$1,130.00 |
| Pier Diem/ Hotel | 1 days @ | \$150.00 | \$150.00 |
| Phone/Fax | | | \$0.00 |
| Delivery | 3 @ | \$25.00 | \$75.00 |
| Printing: Blue Line | | | |
| Vellum / Mylars | 0 sheets @ | \$25.00 | \$0.00 |
| Title Reports | 0 @ | \$500.00 | \$0.00 |
| 11 X 17 Reproduction | 100 @ | \$0.10 | \$10.00 |
| Mounting Boards for Presentations | 0 @ | \$100.00 | \$0.00 |
| Newsletters (Translation and printing) | | | |
| Mailings (6x) | | | |
| C. Other Direct Cost Subtotal: | | | <u>\$1,365.00</u> |

| | |
|----------------------------------|--------------|
| Labor Subtotal A. = | \$46,497.95 |
| Fee (10.0%): | \$4,649.80 |
| Subconsultant Subtotal B. = | \$310,984.00 |
| Fee (0.0%): | \$0.00 |
| Other Direct Cost Subtotal: C. = | \$1,365.00 |
| Fee (0.0%): | \$0.00 |

TOTAL =

\$363,496.75

Note: Invoices will be **based upon actual QEI hourly rates** plus overhead at 173.1% plus prorated portion of fixed fee. Subconsultant and Other Direct Costs will be billed at actual cost.

Exhibit B Cost Proposal

PHASE 2 OPTIONAL TASKS

San Luis Obispo County - Lopez Drive Bridge Retrofit Project

Date: 9/12/2013

Quincy Engineering, Inc.

| | |
|---|-------------------|
| Direct Labor: | \$1,447.86 |
| Escalation for Multi-Year Project (0.0%): | \$0.00 |
| Overhead (1.73): | \$2,506.25 |
| A. Labor Subtotal | <u>\$3,954.11</u> |

Subconsultant Costs:

| | |
|---------------------------|--------------------|
| Fugro | \$89,833.00 |
| Custom CAD Design | \$0.00 |
| 0 | \$0.00 |
| 0 | \$0.00 |
| B. Subconsultant Subtotal | <u>\$89,833.00</u> |

Other Direct Costs:

| | | | |
|--|------------|----------|----------------|
| Plotter/Computer | hours @ | \$10.00 | \$0.00 |
| Travel | 0 miles @ | \$0.565 | \$0.00 |
| Pier Diem/ Hotel | 0 days @ | \$150.00 | \$0.00 |
| Phone/Fax | | | \$0.00 |
| Delivery | 1 @ | \$25.00 | \$25.00 |
| Printing: Blue Line | | | |
| Vellum / Mylars | 0 sheets @ | \$25.00 | \$0.00 |
| Title Reports | 0 @ | \$500.00 | \$0.00 |
| 11 X 17 Reproduction | | | \$0.00 |
| Mounting Boards for Presentations | 0 @ | \$100.00 | \$0.00 |
| Newsletters (Translation and printing) | | | |
| Mailings (6x) | | | <u>\$25.00</u> |

C. Other Direct Cost Subtotal: \$25.00

| | |
|----------------------------------|---------------|
| Labor Subtotal A. = | \$3,954.11 |
| Fee (10.0%): | \$395.41 |
| Subconsultant Subtotal B. = | \$89,833.00 |
| Fee (0.0%): | \$0.00 |
| Other Direct Cost Subtotal: C. = | \$25.00 |
| Fee (0.0%): | <u>\$0.00</u> |

PHASE 2 OPTIONAL TOTAL = **\$94,207.52**

PHASE 2 TOTAL + PHASE 2 OPTIONAL TOTAL= **\$457,704.26**

PAYMENTS ALREADY RECEIVED BY QUINCY FOR PHASE 1 WORK = **\$104,977.53**

NEW CONTRACT AMOUNT= **\$562,681.79**

PHASE 2 COST PROPOSAL

| Project Number: S13-444 | | | | | | | | | | | | | | | San Luis Obispo County - Lopez Drive Bridge Retrofit Project | | | | | | | | | |
|--|---|---------------------|----------------------|----------------------|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|-----------|-----------|----------------------------|-------|--------------------|--|-------------------|------------------------|--|--|--|--|--|--|--|
| TASKS | | Principal in Charge | Project Manager - PM | Senior Engineer - DE | Associate Engineer - DE | Associate Engineer - DE | Senior Engineer - Spec.s | Assistant Engineer - DE | Assistant Engineer - DE | Drafter 3 | Drafter 2 | Principal Engineer (QC/QA) | Admin | Quincy Total Hours | Fugro | Custom CAD Design | Subconsultant Subtotal | | | | | | | |
| No. | Initial Hourly Rate | MR | LS | GY | SM | MK | KG | bridge | bridge | BM | RR | MR | TM | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| PHASE 1 - PRELIMINARY ENGR'G | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Management / Meetings | | | | | | | | | | | | | | | | | | | | | | | |
| 1.1 | Project Management | | 12 | 6 | | | | | | | | | | 18 | | | | | | | | | | |
| 1.2 | Meetings | | 30 | 20 | 2 | | | | | | | | 2 | 54 | | | | | | | | | | |
| 1.3 | QC/QA | | 2 | | | | | | | | | 2 | | 4 | | | | | | | | | | |
| 2 | Geotechnical Engineering | | | | | | | | | | | | | | \$310,984 | | \$310,984 | | | | | | | |
| 2.1 | Field Coord. Meeting | | 14 | | | | | | | | | | 2 | 16 | | | | | | | | | | |
| 2.2 | Health & Safety Plan | | | 1 | | | | | | | | | | 1 | | | | | | | | | | |
| 2.3.1 | Truck Mounted Drilling at Each Abut. | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.2 | Water based Drilling from Barge | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.3 | Truck-mounted CPT along Lopez Dr. | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.4 | Water -Based CPT from Barge | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.5 | Laboratory Testing | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.6 | Geotechnical Evaluation | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.7 | Draft Geotech Report | | 2 | 3 | 2 | | | | | | | | | 7 | | | | | | | | | | |
| 2.3.8 | LOTB | | | 2 | | | | | | | | | | 2 | | | | | | | | | | |
| 2.3.9 | Final Geotech Report | | 2 | 2 | | | | | | | | | | | | | | | | | | | | |
| 2.4 | Prelim. Results Review Meeting | | 16 | | | | | | | | | | 1 | 17 | | | | | | | | | | |
| | Strategy Approval | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | Retrofit Recommendations | | 14 | 32 | 68 | | | | | 4 | 4 | | | 122 | | | | | | | | | | |
| 3.2 | Revised Draft Strategy Report | | 2 | 8 | 16 | | | | | | 8 | | | 34 | | | | | | | | | | |
| 3.3 | Submit Revised Draft Strategy Report | | 6 | 8 | 8 | | | | | | 2 | | 2 | 26 | | | | | | | | | | |
| 3.4 | Strategy Meeting | | 4 | 8 | 4 | | | | | | | | | 16 | | | | | | | | | | |
| 3.5 | Final Strategy Report | | | 2 | 4 | | | | | 2 | | | 1 | 9 | | | | | | | | | | |
| PHASE 2 - ENVIRONMENTAL, FINAL DESIGN, BID ASSISTANCE & CONSTRUCTION SUPPORT | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Subtotal- Hours | | | 104 | 92 | 104 | | | | | 6 | 14 | 2 | 8 | 330 | | | | | | | | | | |
| Other Direct Costs | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Cost | | | \$6,570 | \$4,876 | \$4,680 | | | | | \$250 | \$368 | \$144 | \$138 | \$17,026 | \$310,984 | | \$310,984 | | | | | | | |
| OPTIONAL TASKS | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.3.6 | Geotechnical Evaluation - 3D Kinematic Analysis | 2 | 4 | 8 | 8 | | | | | | | | | 22 | \$30,016 | | \$30,016 | | | | | | | |
| 2.5 | Water based CPT Exploration from Barge | | 2 | 2 | | | | | | | | | 2 | 6 | \$59,817 | | \$59,817 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Subtotal- Hours | | 2 | 6 | 10 | 8 | | | | | | | | 2 | 28 | | | 89833 | | | | | | | |
| Other Direct Costs | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Cost | | \$144 | \$379 | \$530 | \$360 | | | | | | | | \$35 | \$1,448 | \$89,833 | | \$89,833 | | | | | | | |

EXHIBIT C

Organization Chart

